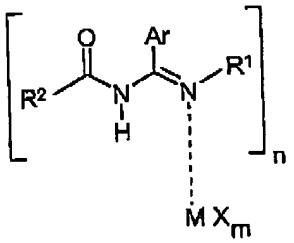
Application No. 10/537569
Reply to Office Action of April 18, 2006

Docket No.: 12810-00093-US

AMENDMENTS TO THE CLAIMS

1. (Original) An N'-substituted N-acylamidine-transition metal complex of the general formula I



I

where

M is a transition metal selected from the group of the metals Ni, Cu, Ru, Rh, Pd, Os, Ir and Pt

X is Cl, Br, triflate, methanesulfonate or p-toluenesulfonate

m is 0, 1 or 2,

n is 1, 2 or 3

and the radicals are defined as follows:

R^1, R^2 are each a straight-chain, branched or cyclic hydrocarbon radical having from 1 to 20 carbon atoms which may be mono- or polyunsaturated, an aromatic radical having from 6 to 14 ring members which may be bonded directly or via a C_1- to C_6-alkyl or C_2- to C_6-alkylene group, and the radicals mentioned may bear one or more substituents selected from the group of C_1- to C_6-alkyl, C_1- to C_4-haloalkyl, OR^3, NR^4R^5, $COOR^6$, $Si(R^7)_3$, $Si(R^7)_2R^8$, halogen, aryl, C_3-C_8-cycloalkyl,

R^3, R^6, R^8 are each independently C_1- to C_{12}-alkyl, C_7- to C_{12}-aralkyl, C_6- to C_{10}-aryl, C_3-

to C_8-cycloalkyl, C_3- to C_8-cycloalkyl in which one CH_2 group has been replaced by O, NH or NR^9,

R^4, R^5, R^{10}, R^{11} are each independently hydrogen, straight-chain or branched C_1- to C_{12}-alkyl, C_7- to C_{12}-aralkyl, C_6- to C_{10}-aryl, C_3- to C_8-cycloalkyl or C_3- to C_8-cycloalkyl in which one CH_2 group has been replaced by O, NH or NR^9, and R^4 and R^5 and/or R^{10} and R^{11} may each together be $-(CH_2)_y-$, where y is an integer from 4 to 7;

R^7, R^9 are each independently straight-chain or branched C_1- to C_{12}-alkyl or C_7- to C_{12}-aralkyl,

Ar is C_6-C_{10}-aryl or hetaryl having from 5 to 10 ring members, and the radicals mentioned may be substituted by C_1- to C_6-alkyl, C_1- to C_4-haloalkyl, $NR^{10}R^{11}$, $COOR^6$, $Si(R^7)_3$, $Si(R^7)_2R^8$, OR^3 and/or halogen.

2. (Original) A transition metal complex of the formula I as claimed in claim 1 where M is a transition metal selected from the group of Ru, Rh, Os, Ir, Pd and Pt.

3. (Original) A transition metal complex of the formula I as claimed in claim 1 where M is Pd or Pt and m and n are each 2.

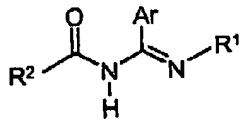
4. (Previously presented) A transition metal complex of the formula I as claimed in claim 1, where

R^1 and R^2 are each branched or unbranched C_1- to C_{12}-alkyl, C_7- to C_{12}-aralkyl, C_6- to C_{10}-aryl, and the radicals mentioned may be substituted by from one to three halogen atoms and/or one or two C_1-C_6-alkyl, trifluoromethyl and/or C_1- to C_6-alkoxy

substituents, and

Ar is C_6-C_{10}-aryl or hetaryl having 5 or 6 ring members, and the radicals mentioned may be substituted by one or more C_1- to C_6-alkyl, C_1- to C_6-alkoxycarbonyl, C_1- to C_6-alkoxy, trialkylsilyl or diarylalkylsilyl and/or trifluoromethyl substituents and/or halogen.

5. (Previously presented) A process for preparing N'-substituted N-acylamidine-transition metal complexes of the general formula I as claimed in claim 1, which comprises dissolving an N'-substituted N-acylamidine ligand of the formula III



III

and a transition metal compound containing the central atom M according to formula I in an organic solvent or in a mixture of different organic solvents and crystallizing the N'-substituted N-acylamidine-transition metal complex by adding a further solvent different to the solvent or solvent mixture used initially.

6. (Original) A process as claimed in claim 5, wherein the first solvent used is a halogenated or aromatic solvent or a mixture of different halogenated or aromatic solvents, and an ethereal solvent or solvent mixture is added for crystallization.

7-9. (cancelled)

10. (previously presented) A catalyst which comprises the N'-substituted N-acylamidine-transition metal complex of the formula I as claimed in claim 1.

11. (previously presented) The catalyst as claimed in claim 10 for transition metal-catalyzed coupling reactions in which at least one new bond is formed between two carbon atoms.

12. (Currently amended) In an olefination ~~An olefination~~ process ~~which~~ wherein the improvement comprises using the catalyst as claimed in claim 10 ~~for transition metal-catalyzed olefination, alkynylation, arylation or diaryl coupling reactions~~.

13. (Currently amended) In an alkynylation ~~An alkynylation~~ process ~~which~~ wherein the improvement comprises using the catalyst as claimed in claim 10.

14. (Currently amended) In an arylation ~~An arylation~~ process ~~which~~ wherein the improvement comprises using the catalyst as claimed in claim 10.

15. (Currently amended) In a diaryl ~~A diaryl~~ coupling reaction process ~~which~~ wherein the improvement comprises using the catalyst as claimed in claim 10.

16. (New) In a Heck reaction wherein the improvement comprises using the catalyst as claimed in claim 10.

17. (New) In a Suzuki coupling reaction wherein the improvement comprises using the catalyst as claimed in claim 10.

18. (New) In a Stephens-Castro-Sonogashira reaction wherein the improvement comprises using the catalyst as claimed in claim 10.

19. (New) In a Stille coupling reaction wherein the improvement comprises using the catalyst as claimed in claim 10.

20. (New) A coupling reaction which comprises reacting a base in the presence of the catalyst as claimed in claim 10.